

Charged Pion Multiplicity Below 1.0 GeV/ c from the MIPP Experiment

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Abstract

The MIPP experiment is designed to study particle production from several targets, using various beam species and momenta. Using beams of ± 58 GeV/ c pions, kaons, and protons, we present multiplicities of 0.1 – 1.0 GeV/ c charged pions versus target atomic weight (A) for the following targets: liquid hydrogen, beryllium, carbon, aluminum, copper, bismuth, and uranium. We fit A^α to these results and present α for each case. In addition, for liquid hydrogen, we present charged pion multiplicities for ± 20 and ± 85 GeV/ c pion, kaon, and proton beam particles, illustrating the dependence on beam momentum.